



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,434	09/30/2003	Wing Yat Lo	P03049501	2433
27689	7590	12/03/2004	EXAMINER	
JOHN C. SMITH, ESQ. 4800 NORTH FEDERAL HIGHWAY SUITE A-207 BOCA RATON, FL 33431			MAYO III, WILLIAM H	
			ART UNIT	PAPER NUMBER
			2831	

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/605,434	LO, WING YAT	
	<b>Examiner</b>	<b>Art Unit</b>	
	William H. Mayo III	2831	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/30/2003</u> .   | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for provisional priority under 35 U.S.C. 119(e). The provisional application being filed May 14, 2003.

### ***Information Disclosure Statement***

2. The information disclosure statement filed September 30, 2003 has been submitted for consideration by the Office. It has been placed in the application file and the information referred to therein has been considered.

### ***Oath/Declaration***

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:  
The first invention John Smith has not signed the oath and therefore it is defective.

### ***Specification***

4. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should

Art Unit: 2831

include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

5. The abstract of the disclosure is objected to because throughout the abstract, such as lines 1-2, 9-11, and 14-16, it refers to purported merits or speculative applications of the invention. The applicant should delete the lines which contain such merits or speculative applications. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claims 1 & 10 both recite the limitation "further comprising" in line 1, which is confusing and renders the claim indefinite because there has not been any previous

Art Unit: 2831

claim limitations claimed and therefore the claim limitations following the term "further comprising" cannot further limit the signal cable. The applicant should delete the term "further" to provide the claim with clarity.

9. Claim 1 recites the limitation "the conductor" in throughout the claim, which is confusing and renders the claim indefinite. It is unclear whether the applicant is referring to the previous mentioned "at least one conductor" or introducing a new conductor. If the applicant is referring to the previous mentioned term, then he/she should recite the term with consistency. If the applicant is referring to a new conductor, then he/she should make the term more distinguishable.

10. Claim 2 recites the limitation "the conductor" in line 2, which is confusing and renders the claim indefinite. It is unclear whether the applicant is referring to the previous mentioned "at least one conductor" or introducing a new conductor. If the applicant is referring to the previous mentioned term, then he/she should recite the term with consistency. If the applicant is referring to a new conductor, then he/she should make the term more distinguishable.

11. Claim 3-20 also recites the limitation "the conductor" in throughout the claims, which is confusing and renders the claim indefinite. It is unclear whether the applicant is referring to the previous mentioned "at least one conductor" or introducing a new conductor. If the applicant is referring to the previous mentioned term, then he/she should recite the term with consistency. If the applicant is referring to a new conductor, then he/she should make the term more distinguishable.

12. Claim 3 recites the limitation "the adjacent segments" in line 2, which is confusing and renders the claim indefinite. It is unclear whether the applicant is referring to the previous mentioned "first or second segments" or introducing a new adjacent segments. If the applicant is referring to the previous mentioned term, then he/she should recite the term with consistency. If the applicant is referring to a new adjacent segments, then he/she should make the term more distinguishable.

13. Claim 4 recites the limitation "the adjacent parallel segments" in lines 2-3, which is confusing and renders the claim indefinite. It is unclear whether the applicant is referring to the previous mentioned "first or second segments" or introducing a new adjacent parallel segments. If the applicant is referring to the previous mentioned term, then he/she should recite the term with consistency. If the applicant is referring to a new adjacent parallel segments, then he/she should make the term more distinguishable.

### ***Claim Rejections - 35 USC § 102***

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

15. Claims 1-2, 7-8, 10-11, 16-17, and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Nugent (Pat Num 5,880,402). Nugent discloses a signal cable (Figs 1-12) that may be utilized as a high fidelity audio cable for connection between

Art Unit: 2831

audio components (Col 5, lines 15-20), which is capable of being self-inductance (Col 5, lines 21-28). Specifically, with respect to claim 1, Nugent discloses a cable (Fig 3) comprising a tube (308) having an internal conduit (305), and at least one conductor (301), wherein the conductor (301) is located in the internal conduit (305) of tube (308) and having a nonlinear structure (crossing configuration) which is arranged such that at least two segments of the conductor (conductor 301, left and right of spacer 309) are arranged such that at least a first and second adjacent segments (left and right of spacer 309) of the conductor (301) conduct current in opposite physical directions (conductor carries current downward left of the spacer 309 and upward right of the spacer 309), such that the magnetic field in the first adjacent segment negates the magnetic field in the second adjacent segment such that self inductance in the conductor is reduced and whereby frequency group delay in the signal cable (Fig 3) is reduced due to the reduction in self inductance in the conductor (301, Col 5, lines 23-28). With respect to claim 2, Nugent discloses that the void in the tube (308) which is not occupied by the conductor (101) is substantially filled with a gel (thermally activated adhesives, Col 6, lines 9-11, see cross hatching in Fig 3). With respect to claim 7, Nugent discloses that the conductor (301) is bent such that the adjacent segments (left and right of spacer 309) are arranged in angles that are obtuse to one another (Col 5, lines 39-42). With respect to claim 8, Nugent discloses that the conductor (301) is held in place by securing means (309) that secure it in the tube (308). With respect to claim 10, Nugent discloses a cable (Fig 3) comprising a tube (308) having an internal conduit (305), and at least one conductor (301), wherein the conductor (301) is located in the



Art Unit: 2831

internal conduit (305) of tube (308) and having a nonlinear structure (crossing configuration) which is arranged such that at least two segments of the conductor (conductor 301, left and right of spacer 309) are arranged such that at least a first and second adjacent segments (left and right of spacer 309) of the conductor (301) conduct current in opposite physical directions (conductor carries current downward left of the spacer 309 and upward right of the spacer 309), such that the magnetic field in the first adjacent segment negates the magnetic field in the second adjacent segment such that self inductance in the conductor is reduced and whereby frequency group delay in the signal cable (Fig 3) is reduced due to the reduction in self inductance in the conductor (301, Col 5, lines 23-28), a first connector (Fig 8) attached to a first end (bottom end) of the signal cable (806) and a second connector (not shown) attached to the second end (top end), wherein the connectors (Fig 8) comprise a negative contact (809) and a hollow positive contact (808) wherein the hollow contact (808) has sufficient size such that the conductor (806) is inserted into the hollow contact capable of being soldered to the hollow positive contact substantially at it's end (Fig 8, Col 9, lines 18-22), thereby having the frequency group delay in the signal cable (806) being reduced due to the reduction of the self inductance of the conductor (806) and signal distortion is minimized by reducing the distance between the conductor (806) and the end of the positive contact (Col 5, lines 46-59). With respect to claim 11, Nugent discloses that the void in the tube (308) which is not occupied by the conductor (101) is substantially filled with a gel (thermally activated adhesives, Col 6, lines 9-11, see cross hatching in Fig 3). With respect to claim 16, Nugent discloses that the conductor (301) is bent such that the



Art Unit: 2831

adjacent segments (left and right of spacer 309) are arranged in angles that are obtuse to one another (Col 5, lines 39-42). With respect to claim 17, Nugent discloses that the conductor (301) is held in place by securing means (309) that secure it in the tube (308). With respect to claim 19, Nugent discloses a method of reducing self inductance in the cable (Fig 3) comprise arranging at least one conductor (301) in the signal cable (Fig 3) in a non-linear fashion, such that at least two segments of the conductor (conductor 301, left and right of spacer 309) are arranged such that at least a first and second adjacent segments (left and right of spacer 309) of the conductor (301) conduct current in opposite physical directions (conductor carries current downward left of the spacer 309 and upward right of the spacer 309), such that the magnetic field in the first adjacent segment negates the magnetic field in the second adjacent segment such that self inductance in the conductor is reduced and whereby frequency group delay in the signal cable (Fig 3) is reduced due to the reduction in self inductance in the conductor (301, Col 5, lines 23-28). With respect to claim 20, Nugent discloses that method wherein the voids the tube (308) which is not occupied by the conductor (101) is substantially filled with a gel (thermally activated adhesives, Col 6, lines 9-11, see cross hatching in Fig 3).

### ***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2831

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

18. Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nugent (Pat Num 5,880,402). Nugent discloses a signal cable (Figs 1-12) that may be utilized as a high fidelity audio cable for connection between audio components (Col 5, lines 15-20), which is capable of being self-inductance (Col 5, lines 21-28) as disclosed above with respect to claims 1 & 10 above.

However, Nugent doesn't necessarily disclose the conductor having a saw-tooth pattern (claims 6 & 15).

With respect to claims 6 & 15, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the conductor to comprise sawtooth shape, since it has been held that a change in form cannot sustain patentability where involved is only extended application of obvious attributes from a prior art. *In re Span-Deck Inc. vs. Fab-Con Inc.* (CA 8, 1982) 215 USPQ 835.

19. Claims 3-5 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nugent (Pat Num 5,880,402) in view of Gerry (Pat Num 4,413,304). Nugent discloses a signal cable (Figs 1-12) that may be utilized as a high fidelity audio cable for connection between audio components (Col 5, lines 15-20), which is capable of being self-inductance (Col 5, lines 21-28) as disclosed above with respect to claims 1 & 10 above. Specifically, with respect to claims 5 & 14, Nugent discloses that the conductor is bent with curved corners (Fig 3).

However, Nugent doesn't necessarily disclose the at least one conductor being formed such that adjacent segments of the conductor are substantially parallel to one another (claims 3 & 12), nor the conductor being bent approximately at a 90 degree angle to form adjacent parallel segments of the conductor (claims 4 & 13).

Gerry teaches a reduced self-inductance signal cable (Figs 1-5) that cancels its own generated electrical and magnetic fields along the length of the cable between wire pairs (Col 1, lines 50-52 & 65-68). Specifically, with respect to claims 3 & 12, Gerry teaches a cable (10) comprising at least one conductor (41, Fig 5) being formed such that adjacent segments of the conductor (41) are substantially parallel to one another (Fig 5). With respect to claims 4 & 13, Gerry teaches that the conductor (41) is bent approximately at a 90 degree angle to form adjacent parallel segments of the conductor (Fig 5).

With respect to claims 3-4 & 12-13, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the conductor of Nugent to comprise the conductor configuration as taught by Gerry

Art Unit: 2831

because Gerry teaches that such a configuration provides a reduced self-inductance signal cable (Figs 1-5) that cancels its own generated electrical and magnetic fields along the length of the cable between wire pairs (Col 1, lines 50-52 & 65-68) and since it has been held that a change in form cannot sustain patentability where involved is only extended application of obvious attributes from a prior art. *In re Span-Deck Inc. vs. Fab-Con Inc.* (CA 8, 1982) 215 USPQ 835.

### ***Allowable Subject Matter***

20. Claims 9 & 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

21. The following is a statement of reasons for the indication of allowable subject matter: This invention deals with a self inductance signal cable comprising at least two conductors which are secured together by ties (claims 9 & 18). The above claim limitations, in combination with the based claim limitations, is not taught or suggested by prior art of record.

### ***Conclusion***

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Bond (Pat Num 5,033,091), Garland (Pat Num 5,929,374), Noda et al (Pat Num 6,057,512), Gwiazdowski (Pat Num 6,013,874), Boehme et al (Pat Num 5,965,956), Garbriel (Pat Num 6,545,213), Palmer (Pat Num

Art Unit: 2831


4,945,189), Dzurak (Pat Num 4,754,102), Ryman (Pat Num 5,936,203), Barnes (Pat Num 6,259,018), Hiraki et al (Pat Num 5,835,979), Werren (Pat Num 1,720,616), and Grach et al (Pat Num 6,506,971), all of which disclose twisted conductors having canceling magnetic and electrical fields.

### ***Communication***

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
William H. Mayo III

Application/Control Number: 10/605,434  
Art Unit: 2831

Page 13

Primary Examiner  
Art Unit 2831

WHM III  
November 22, 2004